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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
DOUGHERTY, THOMAS M	

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 10/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/775,006	MENTESANA, CHARLES	
	Examiner	Art Unit	
	Thomas M. Dougherty	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *204*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Tamai et al. (US 5,949,178). Tamai et al. shows (fig. 1) a piezoelectric device comprising: a driver component (1) having piezoelectric properties; a movable component (5) adapted to move relative to the driver component (1); a friction liner (4) interposed between the driver component (1) and the movable component (5) and having a plurality of projections (4a, 4b) oriented such that a wave moving through the driver component (1) acts against some or all of the plurality of projections to thereby cause the movable component to move.

The driver component (1) is a stator and the movable component (5) is a rotor.

The liner (4) is coupled with a surface of the movable component (5).

The friction liner (4) is adapted to facilitate transferring momentum and torque from the driver component (1) to the movable component (5).

Some or all of the plurality of projections (4a, 4b) are adapted to bend (for example, see claim 27) in response to the wave in the driver component (1), thereby storing energy for transfer to the movable component (5).

The wave is a traveling wave. See col. 4, l. 37.

Tamai et al. show (fig. 1) a piezoelectric device comprising: a stator (1) having piezoelectric properties; a rotor (5) adapted to move relative to the first component (1); and a friction liner (4) interposed between the stator and the rotor having a plurality of projections (4) oriented such that a wave (see col. 4, l. 37) moving through the stator (1) acts against some or all of the plurality of projections (4) , and wherein theplurality of projections (4) are adapted to receive, store, and release to the rotor (1) an energy associated with the wave, thereby facilitating a transfer of momentum and torque from the stator (1) to the rotor (5).

Claims 1-5, 7-11, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Luthier et al. (US 5,418,417). Luthier et al. shows (figs. 1-3) a piezoelectric device comprising: a driver component (S1) having piezoelectric properties; a movable component (R1) adapted to move relative to the driver component (S1); a friction liner (52) interposed between the driver component (S1) and the movable component (R1) and having a plurality of projections (50) oriented such that a wave moving through the driver component (S1) acts against some or all of the plurality of projections (50) to thereby cause the movable component (R1) to move.

The driver component (S1) is a stator and the movable component (R1) is a rotor.

The liner (52) is coupled with a surface of the movable component (R1).

The friction liner (52) is adapted to facilitate transferring momentum and torque from the driver component (S1) to the movable component (R1).

Some or all of the plurality of projections (50) are adapted to bend (see col. 3, ll. 40-44) in response to the wave in the driver component (S1), thereby storing energy for transfer to the movable component (R1).

The plurality of projections (50) are oriented to project non-perpendicularly from the movable component (R1) toward the driver component (S1).

The wave is a traveling wave. See col. 6, ll. 60-64, where the wave is called an advancing wave.

The wave is a standing wave. See col. 6, ll. 60-64. Both types of waves are noted there.

Luthier et al. show (figs. 1-3) a piezoelectric device comprising: a stator (S1) having piezoelectric properties; a rotor (R1) adapted to move relative to the first component (S1); and a friction liner (52) interposed between the stator (S1) and the rotor (R1) having a plurality of projections (50) oriented such that a wave moving through the stator (S1) acts against some or all of the plurality of projections (50), and wherein the plurality of projections (50) are adapted to receive, store, and release to the rotor (R1) an energy associated with the wave, thereby facilitating a transfer of momentum and torque from the stator (S1) to the rotor (R1).

The friction liner (52) is coupled with a surface of the rotor (R1).

The plurality of projections (50) are oriented to project non-perpendicularly from the rotor (R1) toward the stator (S1).

Claims 1-6, 8, 10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsukimoto et al.et al. (US 5,917,270). Tsukimoto et al. show (fig. 3 and

19A) a piezoelectric device comprising: a driver component (1) having piezoelectric properties; a movable component (2) adapted to move relative to the driver component (1); a friction liner (7) interposed between the driver component (1) and the movable component (2) and having a plurality of projections (7) oriented such that a wave moving through the driver component (1) acts against some or all of the plurality of projections (7) to thereby cause the movable component (2) to move. Note that in figure 19A the projections are numbered 21A, and the purpose here is to replace the friction liner of figure 3 with that of 19A which is an interchangeable part.

The driver component (1) is a stator and the movable component (2) is a rotor.

The liner (21A) is coupled with a surface of the movable component (2).

The friction liner (21A) is adapted to facilitate transferring momentum and torque from the driver component (1) to the movable component (2).

Some or all of the plurality of projections (21A) are adapted to bend (see fig. 7 whwhich shows the flexural deformation state in the circumferential direction) in response to the wave in the driver component (1), thereby storing energy for transfer to the movable component (2).

The plurality of projections (21A) are oriented to project perpendicularly from the movable component (2) toward the driver component (1).

The wave is a traveling wave. See col. 1, ll. 42-45.

Tsukimoto et al. show (figs. 3 and 19A) a piezoelectric device comprising: a stator (1) having piezoelectric properties; a rotor (2) adapted to move relative to the first component (1); and a friction liner (7) interposed between the stator (1) and the rotor (2)

having a plurality of projections (e.g. 21A, as noted above) oriented such that a wave moving through the stator (1) acts against some or all of the plurality of projections (21A), and wherein the plurality of projections (21A) are adapted to receive, store, and release to the rotor (2) an energy associated with the wave, thereby facilitating a transfer of momentum and torque from the stator (1) to the rotor (2).

The friction liner (52) is coupled with a surface of the rotor (R1).

The plurality of projections (21A) are oriented to project perpendicularly from the rotor (2) toward the stator (1).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The remaining prior art reads on at least some aspects of the claimed invention.

tmd

October 23, 2006

TOM DOUGHERTY
PRIMARY EXAMINER